



Contribution ID: 133 Contribution code: **S1 Physics Innovation**

Type: **Oral Presentation**

## **Experimental and theoretical studies of spread factor of swine blood- and deionized water-drop on glass surface.**

*Friday, June 24, 2022 11:45 AM (15 minutes)*

The spread factor of liquid-stains on glass surfaces, following both perpendicular and non-perpendicular impact velocity, had been studied with a view to understanding whether surface-specific properties affect the size and shape of the stain. According to the properties of swine blood, there is a ratio of the area of change when the blood strikes the surface to the area of the blood when it contracts to equilibrium. Therefore, this research aim to impact to 2 types of surfaces, namely clean glass surface and coated with commercial non-adhesive glass surface, resulting in significant size or shape of the blood droplets. When a drop of blood impacted on glass surface, it is found that the droplet radiates and adheres to the surface. As for the water proofed coating surface, it was found that at low heights, the droplets of blood radiated and retracted into equilibrium. As the height increased, Spatter stains were formed around the drop of blood. Therefore, the rate of rebound is 53-62% . This works has demonstrated some of fundamental systematic sources of the conventional formula for interpreting elliptical stains and established some of the basic theory on which to develop the interpretation casework stains on other surfaces, in the future.

**Primary author:** Ms RAWENROJ, Suparat (University of Phayao)

**Co-author:** Dr DUANGJAK NA AYUDHYA, Paisarn (University of Phayao)

**Presenter:** Ms RAWENROJ, Suparat (University of Phayao)

**Session Classification:** S1 Physics Innovation

**Track Classification:** Physics Innovation